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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/051,735

01/16/2002

David E. Hyre

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7590

04/27/2005

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EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,735

Applicant(s)

HYRE ET AL.

Examiner

Phylesha L Dabney

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11, 14, 17-20, 23-26 and 30-36 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 12, 13, 15, 16, 21, 22, 27-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the amendment received on 25 January 2005 in which claims 1, 3-10, 12-13, and 15-36 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 18, 23-26, 30-31, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Zwicky U.S. Patent No. 4,980,921).

Regarding claim 1, Zwicky teaches an electromechanical transducer (figures 1-4) comprising: a magnetic assembly (11-27, and 29-30) producing a magnetic field, that field having two or more displaced regions of greater intensity (19-26; col. 5 line 66 through col. 6 line 11), those regions having magnetic flux in substantially similar directions (col. 5 lines 31-66), and separated by and surrounded by regions of lower-intensity magnetic field (12 and 29-30); and an electrically-conductive and mobile member (15-17) disposed in the magnetic field capable of moving through the magnetic field.

Regarding claim 18, Zwicky teaches wherein at least one region of high magnetic intensity is of magnitude and/or size substantially different from that in other regions (figures 1-4).

Art Unit: 2643

Regarding claims 23-26, Zwicky teaches an apparatus with electrically conductive material in at least one region of lower flux, with passively-energized, electrically-conductive non-magnetic material in the region of lower flux, or with externally-energized, electrically-conductive non-magnetic material in the region of lower flux (i.e. coil of wire).

Regarding claim 30, Zwicky teaches an apparatus wherein the pole and/or top plate are shaped to produce multiple regions of varying magnetic intensity of different dimensions (col. 5 line 66 through col. 6 line 11).

Regarding claim 31, Zwicky teaches an apparatus whose magnetic assembly is created by a central pole (12), back plate (12; 30, lower section of 12), and magnetic material (14) with a field arranged so as to eliminating the need for a top plate.

Regarding claims 34 and 36, Zwicky teaches an apparatus wherein the electrically conductive and mobile member (15-17) has the length of its conductive region along the motional axis similar to (longer than) the distance between maxima.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-8, 17, 19-20, 32-33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwicky.

Regarding claim 3, Zwicky teaches a magnetic system for use with an electro-acoustic transducer (col. 2 lines 65-68; dynamic loudspeaker). He also teaches that an electro-acoustic transducer has a supporting frame (col. 1, line 36; loudspeaker box); an acoustic-radiating diaphragm (col. 1, lines 23-26) attached to and moving with the electrically conductive and mobile member. Zwicky does not teach an air seal at the edge of the diaphragm and a suspending element to provide restoring force to the moving parts. However the examiner takes official notice that it is known for an electro-acoustic transducer to have a suspending element, i.e. edge-roll, suspension, or damper, to attach and seal the diaphragm to the supporting frame for protecting the diaphragm from being damage during excursion forces. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a suspending element in the electro-acoustic transducer to protect the diaphragm from damage as well as, provide a restoring force.

Regarding claim 4, Zwicky teaches the magnetic assembly having a central pole (12), back plate (near 30), magnetic material (14), and top plate (13).

Regarding claim 5, Zwicky teaches the pole and/or top plate are each made of multiple pieces of ferromagnetic material shaped to create the stated non-uniform magnetic field (col. 5 lines 3-10).

Regarding claim 6, Zwicky teaches the pole and/or top plate are each made of multiple pieces of ferromagnetic material shaped to create the stated non-uniform magnetic field (col. 5 lines 3-10).

Regarding claim 7, Zwicky teaches the top plate is shaped to produce the regions of varying magnetic intensity (col. 5 lines 3-10).

Art Unit: 2643

Regarding claim 8, Zwicky teaches the pole (12) is shaped to produce the regions of varying magnetic intensity.

Regarding claim 17, Zwicky teaches an electro-acoustic transducer wherein at least one region of high magnetic intensity is of magnitude and/or size substantially similar to that in other regions (col. 5 line 66 through col. 6 line 11).

Regarding claim 19, Zwicky inherently teaches the apparatus with more than one field (fig. 2).

Regarding claim 20, Zwicky teaches the apparatus with nonmagnetic material (25) in at least one region of lower flux.

Regarding claim 32, see rejection of claim 3.

Regarding claim 33, Zwicky teaches an apparatus as an electro-acoustic transducer, with an acoustic-radiating diaphragm attached to and moving with the electrically conductive and mobile member (col. 1 lines 25-58).

Regarding claim 35, Zwicky teaches an apparatus wherein the electrically conductive and mobile member (15-17) has a length of its conductive region along the motional axis between the maxima in the magnetic field through which it travels. Zwicky does not teach that the length is somewhat shorter than the distance between the maxima in the magnetic field; however, the examiner takes official notice that it is known in the art to use a longer or shorter length for the conductive mobile member relative to the conductive region to beneficially vary the excursion force created to optimize the apparatus for its specific application. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a shorter or

Art Unit: 2643

longer conductive mobile member to beneficially vary the excursion force created as stated above.

Allowable Subject Matter

3. Claim 9-10, 12, 13, 15-16, 21-22, and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the grooves lie on either side of the coil and include one in the top plate opposite that in the pole) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2643

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 14, 2005

PLD


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